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SMITHSONIAN INSTITUTION

MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)hold 1 for Sec. Back up  
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to the FY 1980 budget

January 1979



SMITHSONIAN INSTITUTION  
MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)

PROGRAM PURPOSES AND LIST OF GRANTS

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MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)

PROGRAM PURPOSES AND LIST OF GRANTS

INTRODUCTION

The Smithsonian Institution's Special Foreign Currency Program makes grants in United States-owned foreign currencies to United States institutions, including the Smithsonian itself, to conduct research projects in the so-called "excess" foreign currency countries. In FY 1978 the "excess" foreign currency countries were Burma, Egypt, Guinea, India, and Pakistan. The Smithsonian program supports research in Archeology and Related Disciplines, Systematic and Environmental Biology, Astrophysics and Earth Sciences, and Museum Programs.

The Smithsonian Foreign Currency Program awards grants when applicants have fulfilled three requirements. These are: 1) the favorable recommendation by a national advisory council of qualified scholars; 2) the concurrence of the appropriate American embassy and host government overseas; and 3) the completion of appropriate cooperative arrangements with host country institutions.

This supplement to the Institution's FY 1980 appropriation request describes: 1) the Smithsonian Foreign Currency Program within the context of the basic Smithsonian purpose; 2) some of the Program's achievements; 3) its goals for FY 1980; and 4) projects for which obligations were incurred during FY 1978.

THE GLOBAL NATURE OF THE SMITHSONIAN'S CHARTER

The purpose of the Smithsonian Institution is "the increase and diffusion of knowledge." This quotation from the will of its founder, James Smithson, was made part of the Institution's enabling legislation enacted by the Congress in 1846, chartering the Institution and leading to the eventual designation of the Institution as the custodian of the national collections.

The Smithsonian's first Secretary, Joseph Henry, implemented the charter through support of basic research and publication not only in Washington but through a global network of correspondence devoted to these same ends. At the same time, the Institution began to acquire substantial collections of biological and geological specimens and of archeological and ethnographic materials, derived both from its own research and from U.S. Government programs. The Institution continues



to conduct research and education programs and to improve its collections. Today the Institution is acknowledged to be a major national resource for the study of natural and cultural history and to be without equal anywhere on earth.

#### PROGRAM OF GRANTS FOR FIELD RESEARCH

The purpose of the Smithsonian Foreign Currency Program is, like that of the Institution itself, "the increase and diffusion of knowledge." The Smithsonian Foreign Currency Program supports this purpose by making grants to United States universities, museums, and other institutions of higher learning including the Smithsonian itself, primarily for research and advanced professional training in fields of traditional Smithsonian competence.

The Smithsonian program is the principal source of excess foreign currency support for research carried out by United States institutions in the excess currency countries. The Smithsonian program is distinguished from other Special Foreign Currency Programs in that the full responsibility for the design, execution and publication of research results rests with a scholar working within the program of a United States institution. The importance of this source of funds grows as inflation diminishes funds available from other sources for such research.

The Smithsonian program strengthens the research and training activities of collaborating institutions abroad as well, for most projects directly involve host country institutions and scholars. Enduring professional ties which result from such joint efforts and scholarly exchange contribute to the strongest form of United States cultural relations with other nations. Moreover, these ties contribute to the integration of the worldwide scientific process which serves to narrow the gap between the industrial and the developing nations.

#### THE IMPORTANCE OF RESEARCH IN THE NATURAL SCIENCES AND CULTURAL HISTORY

Research in the natural sciences and in cultural history is important to understanding and managing a world where human population growth exceeds the availability of resources to support that population.

Grants awarded by the Smithsonian in systematic and evolutionary biology have contributed to the understanding of humankind and its environment. In FY 1978, grants supported the following projects of special interest:

- the quarrying of fossil sites in the Fayum Province of Egypt which is providing information on the early primate ancestors of man 35 million years ago; and



- the collaboration of teams of paleobiologists from Howard and Yale Universities, the Smithsonian and University of Michigan with the Geological Survey of Pakistan which is contributing to the knowledge of the mineral resources of that country.

In astrophysics and earth sciences, contributions were made to the study of the earth and its management. For example:

- specialists in solar energy met in India to exchange ideas and technological expertise. Scientists of developed countries contributed news of technological advances while developing nations demonstrated their traditional, practical uses of solar energy; and
- studies are being made of sand movement and desert erosion through field observation and satellite photos. This contributes to efforts towards dune stabilization and control of desertification.

Smithsonian grants in cultural history contribute to an understanding of the individual and society. In FY 1978, grants supported a comprehensive study of 19th and early 20th century photographs taken in India by both British and Indian professional photographers which is providing new interpretive material on social attitudes of the period.

The special role of museum programs in acquainting one people with the culture of another continued to be demonstrated in FY 1978 with Smithsonian support for exchange programs including:

- a survey of cross-cultural folk traditions using puppetry which was begun among diverse cultures of Burma, Guinea, Egypt, India and Pakistan; and
- a continuing exchange of U.S. and Indian museum professionals which provides new insights into exhibition development.

#### THE IMPORTANCE OF MULTI-YEAR GRANTS

Since the inception of its Special Foreign Currency Program the Smithsonian practice has been to provide funding on an annual basis for most of its grantees even though approved proposals are frequently of a multi-year nature. This has been done because until FY 1979 the Smithsonian appropriation was sufficient to allow for only occasional multi-year grants. It is worth noting that multi-year funding is the standard practice of other Special Foreign Currency Program agencies.

In FY 1979, with an appropriation of \$3,700,000 equivalent in foreign currencies, and in FY 1980, with the same amount requested for grants, multi-year funding of major programs on a regular basis will be possible. Multi-year



funding is important for several reasons. Rational planning by the United States grantee institution and by the host country collaborator requires the advance commitment of professors and graduate students as well as of facilities. The broad objectives of the participating institutions also depend on the coordination of such resources. Multi-year grants, with annual disbursement subject to a finding by the Smithsonian that satisfactory progress has been made, are essential to provide reasonable assurance of funding to these institutions. Further, the Smithsonian has found it necessary to undertake multi-year funding on those occasions when it was essential to protect investments in successful projects against the possibility that some excess currency accounts would be exhausted. This happened in Poland and Tunisia in FY 1977, and is expected to happen in Egypt no later than FY 1981.

#### BENEFITS TO UNITED STATES INSTITUTIONS

Since the inception of the program in FY 1966, Smithsonian grants have been made to 191 United States institutions in 31 states and the District of Columbia to support more than 500 individual projects. Publications known to have resulted from program grants totalled more than 1,100 at the end of FY 1978.

More than 100 research collections have been returned to United States universities and museums. A similar number of collections have been added to the research resources of the excess currency countries. These collections are the original biological specimens and the archeological and ethnographic materials acquired in the course of field research. They will remain available for further study and interpretation by other generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions have been published.

The benefits of the program have extended to a far larger number of institutions than the 191 direct grant recipients mentioned above. For example, three of the grantee institutions are consortia of United States scholarly institutions. They are the American Institute of Indian Studies (AIIS) in Chicago, Illinois, with 29 institutional members; the American Research Center in Egypt (ARCE) in Princeton, New Jersey, with 22 institutional and some 600 individual members; and the American Schools of Oriental Research (ASOR) in Cambridge, Massachusetts, with 135 member institutions including three scholarly associations.

Smithsonian grants have supported the research in India of 239 AIIS fellows over the 11-year period from FY 1968 through FY 1978. The fellows were drawn from 43 United States institutions in 22 states. Program grants have also supported 43 ARCE projects over the 13-year period from FY 1966 through FY 1978. Nine ASOR excavations in Israel and Tunisia have provided research opportunities for more than 260 senior U.S. scholars and field training for more than 324 graduate students.



### THE FY 1980 APPROPRIATION REQUEST

For FY 1980, the Smithsonian requests an appropriation of \$7,700,000 equivalent in foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States. This appropriation will be used to continue a program of grants to United States institutions for field research in those countries where excess local currencies are available. Of the total requested, \$2,800,000 will be available for one-year funding of continuing projects, \$400,000 will support new projects, and \$500,000 will provide multi-year funding of projects for which assurance of funding continuity is important. The appropriation request includes \$4,000,000 equivalent in Pakistani rupees for a U.S. contribution to the international effort to save the ancient urban site of Moenjodaro.

### EXPANDING CULTURAL PROGRAMS

Recent developments in United States' international, cultural and scientific relations have opened new areas for cooperative programs. These programs are amenable to support from the Smithsonian Foreign Currency Program. The Indo-U.S. Subcommissions on Education and Culture and on Science and Technology have established new priorities for exchanges and research. The Museum Committee of the Indo-U.S. Subcommission on Education and Culture, in particular, has developed a substantial program of curatorial and exhibits exchanges. Similarly, the U.S.-Egyptian Joint Working Group on Education and Culture is developing proposals for mutually beneficial museum exchanges. In addition, a newly-organized American Institute of Pakistan Studies will encourage research by American scholars in a broad range of disciplines.

### SCIENTIFIC REVIEW UNDER THE SMITHSONIAN PROGRAM

The Smithsonian's Special Foreign Currency Program provides a mechanism for American private sector institutions--universities, museums and research centers--to make use of excess foreign currencies in support of their own research programs.

The Smithsonian program considers proposals from any qualified American institution for research in fields of traditional Smithsonian competence. The program seeks the advice of experts in the specific area of sciences to be studied in reviewing the proposals and annually convenes advisory councils of senior scholars from across the nation. Following the recommendation in the House-Senate Conference Report 95-1672 dated September 29, 1978, the National Science Foundation has agreed to review the credentials of the members of the advisory councils and certify their competence. The councils discuss and evaluate the proposals, taking into consideration the experts' opinions, and provide specific



advice to the Smithsonian regarding the priority among and selection of proposals recommended for support.

Foreign currency awards to other institutions are executed as normal Federal contracts, with the American grantee institutions providing for full fiscal accountability. The Smithsonian audits each grantee's periodic financial reports and where grantees maintain records abroad, conducts site audits to ensure that appropriate accounting procedures are followed.

Whether funded originally on a multi-year or one-year basis, projects lasting more than one year are subject to an annual review of scientific progress by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when first-hand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

#### THE IMPORTANCE TO THE SMITHSONIAN OF AWARDS FOR RESEARCH

Access to funds for independent research is an essential factor in enabling the Smithsonian to attract and retain leading researchers and thereby to maintain a standard of excellence as a research institution. In this context, the Institution's initial request in FY 1966 for an appropriation of excess foreign currencies (initiated at the recommendation of the Department of State because of the recognized competence of the Institution in archeology) made it clear that Smithsonian scholars would compete for these funds. The appropriation justification in that year stated that the Institution would "...award and administer foreign currency grants...for maximum benefit of all participating institutions, as well as the Smithsonian." This appropriation has provided Smithsonian scientists an opportunity to pursue new and innovative research.

Under the Special Foreign Currency Program guidelines, Smithsonian proposals are reviewed by the same councils of distinguished scholars as are proposals from other institutions. Continuing projects are also subject to annual reviews. (These processes are described above in the section entitled "Scientific Review Under the Smithsonian Program.") The Special Foreign Currency Program awards to Smithsonian employees, as to other scholars, often involve participants from other organizations and universities as collaborators. No Smithsonian employee, nor any other grantee, receives personal compensation to duplicate or supplement his salary. Program awards cover only field research costs in the excess currency country and international travel to the country.

The awards to Smithsonian employees are executed as normal Federal allotments to the individual bureaus of the Institution for the support of approved employee research projects. Such funds are expended in



accordance with Federal procurement and personnel regulations.

#### SPECIAL FOREIGN CURRENCY PROGRAM APPROPRIATIONS AND THE U.S. TAXPAYER

An appropriation for this program does not add to the tax burden of Americans because the money used for foreign currency grants comes from U.S. holdings of foreign currencies abroad in existing accounts that were established in connection with the "Food for Peace" (PL. 480) program. These accounts were generated largely through sales of surplus U.S. agricultural commodities abroad in exchange for local currencies. In cases where these are greatly in excess of the projected normal U.S. needs, the Treasury Department designates them "excess foreign currencies." They then become available through the Special Foreign Currency Program appropriation process for U.S. uses like scientific research.

Erosion of these accounts by inflation is in many countries dramatically reducing their value to the United States. Indian and Pakistani rupees have, for example, lost almost half of their value since 1970. As a consequence, when a worthy use of these excess currencies can be identified through programs like the Smithsonian Foreign Currency Program, the U.S. can effectively employ at least some of these currencies before inflation effectively eliminates their usefulness.

#### INTERNATIONAL EFFORT TO SAVE MOENJODARO

In 1921, two important and wholly unexpected discoveries were made in the Indus Valley of India, now Pakistan, when archeologists discovered the remains of the cities of Harappa, near Lahore, and Moenjodaro, about 250 miles north of Karachi. These two cities apparently are the products of the common Harappan civilization which flourished 4,500 years ago, from 3000 B.C. to 1500 B.C. Today they are still among the earliest known evidences of town planning. From the time of their discovery until the late 1930's they were subjected to intensive archeological activity, which brought forth clear evidence that an extensive and sophisticated culture existed in a region which extended from the foothills of the Himalayas to the Arabian Sea, from the borders of Iran into what, today, is India. Moenjodaro, a city of a square mile, is the larger and more impressive of the two sites. It has been painstakingly excavated and its archeological finds carefully preserved.

For Pakistan, Moenjodaro is more than an archeological site. It is the symbol of the country's history and of a unique contribution that was made to human development by a civilization which held sway over that part of the world for at least a millenium and a half. For the world's archeological community, particularly for those concerned with the history of urbanism, Moenjodaro is a splendid example of ingenuity and farsightedness. From the standpoint of planning, sanitation and social



organization, this city anticipates developments which only blossomed several thousand years later. In addition to its urban importance, the Harappan civilization is notable for the obvious sophistication of its alphabet, still undeciphered, for the high quality of its ceramics and for the unique beauty of its seals.

The excavated ruins at Moenjodaro, which are located a few hundred yards from the meandering course of the Indus River, have been threatened since their discovery by two main causes of destruction: the unpredictable river, whose course changes slightly with almost every rainy season, and highly saline ground waters which have caused the serious deterioration of the excavated remains. The buildings, acting as a wick, draw up water from the sub-soil. The water carries with it dissolved salts which upon drying crystallize on the surface of the bricks causing them to crumble. The effect of this continuing process has led to the progressive disintegration of entire buildings and is rapidly turning an irreplaceable part of urban history into an irretrievable rubble heap. Archeologists suggest that in 20 to 30 years most of the walls will collapse.

Since the 1960's the Government of Pakistan has appealed to the international community for assistance in saving Moenjodaro by diverting the river, lowering the water table, providing remedial action to stabilize threatened buildings and preventing disintegration of those that have not yet been seriously damaged. UNESCO responded to Pakistan's appeal and, in 1974, agreed to lead an international fund-raising campaign. In the interim, the Government of Pakistan, with the assistance of UNESCO, has conducted an intensive series of technical studies relating to river control, dewatering, and other methods conducive to the eventual preservation of the site.

To date, the international campaign has produced over \$1 million in contributions, mainly from the governments of the Federal Republic of Germany and Japan. Moreover, the World Food Program of the Food and Agricultural Organization has allocated, as part of a broad afforestation project for Pakistan, \$500,000 for necessary landscaping. This will include a shelter belt of salt-tolerant trees to reduce wind erosion and the deposition of salts, and the planting of salt-absorbing grass to assist in lowering the water table. Landscaping the archeological areas and visitor facilities with plants similar to those thought to have grown there 4,000 to 5,000 years ago is also planned.

An international consultative committee has been charged with advising UNESCO and the Government of Pakistan on the project development and will meet in early February, 1979 to review final plans. The Government of Pakistan itself is ready to allocate resources so that a start can be made to implement the final recommendations of the committee. Although full details of the plans will not be decided until the committee meeting in February, it is anticipated that the work will be carried out in



several stages beginning with river control, a series of tube wells to lower the water table, and a diversion canal. These steps are expected to arrest the most serious hazards to the continued existence of the Moenjodaro remains. The second stage will extend the number of tube wells, and carry out intensive remedial action which will take two forms:

- consolidation and treatment of the remaining structure; and
- planting of the area with a variety of salt-resistant plants which will consolidate the soil and provide a suitable protection from wind-driven sands.

The total cost of the project is anticipated to be over \$10,000,000. The proposed contribution from the United States, in nonconvertible Pakistani currency, is the equivalent of four million U.S. dollars. The participation of the United States in the salvage of Moenjodaro has been considered to be in the national interest by the Department of State.

The Institution is seeking this appropriation at this time for several reasons. Since all U.S. foreign currency accounts are subject to diminution over time by inflation and devaluation, a positive U.S. response to this international appeal at a later time could require the contribution to be made in hard dollars rather than in the U.S.-owned Pakistani rupees which are available currently. Further, with the adoption of a final plan for arresting the continued degradation of Moenjodaro, it is desirable to stimulate other UNESCO countries to pledge support. The role of the U.S. will be most important in this regard. If significant portions of the Moenjodaro ruins are to be rescued, steps must be taken now.

The Smithsonian is making this request because of its traditional interest in archeology and cultural history. It was the agent for conveying the final U.S. contribution to the International Campaign to Save the Nubian Monuments --the successful effort to move the Temples of Philae. The Smithsonian Special Foreign Currency Program has supported the significant archeological investigations of Moenjodaro and other Harappan sites which have added greatly to knowledge of this civilization.

As with the Nubian monuments of Egypt, preserving the remains of Moenjodaro will benefit greatly generations of scholars to come. The network of scholarly relations between American institutions and their counterparts in Pakistan will be developed and strengthened. Indeed, the maintenance of cultural ties between nations can provide a link which endures through the shifting of other relations and insures continued contact between nations.



Finally, support by the United States for the preservation of this unique historic site is in the spirit of the UNESCO convention covering the protection of the world cultural and natural heritage (the World Heritage Convention) which was ratified by the United States in 1973.



SMITHSONIAN INSTITUTION  
MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)

SUMMARY OF OBLIGATIONS, ACTUAL AND ESTIMATED  
FY 1978, FY 1979, and FY 1980

Obligations of Funds by Program Area  
(dollar equivalents)

	<u>FY 1978</u> <u>Actual</u>	<u>FY 1979</u> <u>Estimate</u>	<u>FY 1980</u> <u>Estimate</u>
Archeology and Related Disciplines	\$3,551,000 <u>1/</u>	\$2,572,000	\$6,406,000 <u>4/</u>
Systematic and Environmental Biology	305,000	616,000	504,000
Astrophysics and Earth Sciences	119,000	258,000	495,000
Museum Programs	69,000	134,000	211,000
SFCP Grant Administration <u>2/</u>	65,000	20,000	17,000
National Science Foundation-- Science Information Program (Translations)	<u>202,000</u>	<u>200,000</u>	<u>167,000</u>
TOTAL	\$4,311,000	\$3,800,000	\$7,800,000

Obligations of Funds by Country  
(dollar equivalents)

	<u>FY 1978</u> <u>Actual</u>	<u>FY 1979</u> <u>Estimate</u>	<u>FY 1980</u> <u>Estimate</u>
Burma	\$ 0	\$ 30,000	\$ 23,000
Egypt	2,324,000 <u>1/</u>	1,619,000	1,624,000
Guinea	3,000	3,000	13,000
India	1,762,000 <u>2/3/</u>	1,739,000 <u>2/3/</u>	1,705,000 <u>2/3/</u>
Pakistan	<u>222,000</u>	<u>409,000</u>	<u>4,435,000</u> <u>4/</u>
TOTAL	\$4,311,000	\$3,800,000	\$7,800,000

1/ FY 1978 amounts include the last of four annual payments, each of \$1,000,000 equivalent in excess Egyptian pounds which constitute the United States contribution to the project to save the Temples of Philae.

2/ Includes transfers to the State Department for "Shared Administration Expenses and transfers to NSF Science Information Program for Translations.

3/ Includes transfers to the NSF Science Information Program for translations.

4/ Includes \$4,000,000 equivalent for a U.S. contribution to the International effort to save Moenjodaro.



MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)

FISCAL YEAR 1978 - ACTUAL OBLIGATIONS

Actual Obligations by Program Area  
(dollar equivalents)

	<u>Research Projects</u> <u>1/</u>	<u>Research Development</u> <u>1/</u>	<u>Total</u>
Archeology and Related Disciplines	\$3,526,000 <u>2/</u>	\$ 25,000	\$3,551,000
Systematic and Environmental Biology	268,000	37,000	305,000
Astrophysics and Earth Sciences	112,000	8,000	119,000
Museum Programs	<u>27,000</u>	<u>41,000</u>	<u>69,000</u>
TOTAL FOR RESEARCH	\$3,933,000	\$111,000	\$4,044,000
SFCP Grant Administration <u>3/</u>			65,000
NSF Science Information Program-Translations <u>4/</u>			<u>202,000</u>
TOTAL			\$4,311,000

Actual Obligations by Country  
(dollar equivalents)

	<u>Grant Administration and Agency Transfers</u>	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Burma	-	-	-	-
Egypt	\$ 6,000	\$2,302,000	\$ 16,000	\$2,324,000
Guinea	-	-	3,000	3,000
India	261,000	1,412,000	89,000	1,762,000
Pakistan	<u>-</u>	<u>219,000</u>	<u>3,000</u>	<u>222,000</u>
TOTAL	\$267,000	\$3,933,000	\$111,000	\$4,311,000

1/ These projects are described in the Grants List which follows.

2/ FY 1978 amounts include the last of four annual payments, each of \$1,000,000 equivalent in excess Egyptian pounds, which constitute the United States contribution to the project to save the Temples of Philae.

3/ Includes transfers to the State Department for "Foreign Affairs Administrative Support."

4/ Includes transfers to NSF Science Information Program for Translations.



MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)

FISCAL YEAR 1979 - ESTIMATED OBLIGATIONS

Estimated Obligations by Program Area  
(dollar equivalents)

	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Archeology and Related Disciplines	\$2,552,000	\$ 20,000	\$2,572,000
Systematic and Environmental Biology	606,000	10,000	616,000
Astrophysics and Earth Sciences	248,000	10,000	258,000
Museum Programs	<u>128,000</u>	<u>6,000</u>	<u>134,000</u>
TOTAL FOR RESEARCH	\$3,534,000	\$46,000	\$3,580,000
SFCP Grant Administration / <u>1</u>			20,000
NSF Science Information Program-- Translations			<u>200,000</u>
TOTAL			\$3,800,000

Estimated Obligations by Country  
(dollar equivalents)

	<u>Grant Administration and Agency Transfers</u>	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Burma	\$ 0	\$ 27,000	\$ 3,000	\$ 30,000
Egypt	0	1,609,000	10,000	1,619,000
Guinea	0	-	3,000	3,000
India	220,000 / <u>1/2</u>	1,499,000	20,000	1,739,000
Pakistan	<u>0</u>	<u>399,000</u>	<u>10,000</u>	<u>409,000</u>
TOTAL	\$220,000	\$3,534,000	\$46,000	\$3,800,000

/1 Includes transfers to the State Department for "Foreign Affairs Administrative Support."

/2 Includes transfers to NSF Science Information Program for translations.



MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)

FISCAL YEAR 1980 - ESTIMATED OBLIGATIONS

Estimated Obligations by Program Area  
(dollar equivalents)

	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Archeology and Related Disciplines	\$6,386,000 <sup>/2</sup>	\$20,000	\$6,406,000
Systematic and Environmental Biology	494,000	10,000	504,000
Astrophysics and Earth Sciences	485,000	10,000	495,000
Museum Programs	<u>205,000</u>	<u>6,000</u>	<u>211,000</u>
TOTAL FOR RESEARCH	\$7,570,000	\$46,000	\$7,616,000
SFCP Grant Administration <sup>/1</sup>			17,000
NSF Science Information Program-- Translations			<u>167,000</u>
TOTAL			\$7,800,000

Estimated Obligations by Country  
(dollar equivalents)

	<u>Grant Administration and Agency Transfers</u>	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Burma	\$ 0	\$ 20,000	3,000	\$ 23,000
Egypt	0	1,614,000	10,000	1,624,000
Guinea	0	10,000	3,000	13,000
India	\$184,000	1,501,000	20,000	1,705,000
Pakistan	<u>0</u>	<u>4,425,000<sup>/2</sup></u>	<u>10,000</u>	<u>4,435,000</u>
TOTAL	\$184,000	\$7,570,000	\$46,000	\$7,800,000

<sup>/1</sup> Includes transfers to the State Department for "Foreign Affairs Administration Support"

<sup>/2</sup> Includes \$4,000,000 equivalent for a U.S. contribution to the international effort to save Moenjodaro.



MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAMS)

STATUS OF FUNDS  
(dollar equivalents)

	<u>FY 1978</u> <u>Actual</u>	<u>FY 1979</u> <u>Estimated</u>	<u>FY 1980</u> <u>Estimated</u>
Unobligated Balance, Start of year	+ \$ 282,000	+ \$ 60,000	+ \$ 60,000
Appropriation	+ 4,000,000	+ 3,700,000	+ 7,700,000
Recovery of Prior Years' Obligations	+ 89,000	+ 100,000	+ 100,000
Unobligated Balance, End of year	- 60,000	- 60,000	- 60,000
	<hr/>	<hr/>	<hr/>
TOTAL OBLIGATIONS	\$4,311,000	\$3,800,000	\$7,800,000



SMITHSONIAN INSTITUTION  
MUSEUM PROGRAMS AND RELATED RESEARCH  
(SPECIAL FOREIGN CURRENCY PROGRAM)  
Fiscal Year 1978

List of Grants

ARCHEOLOGY AND RELATED DISCIPLINES

The study of archeology, anthropology, and related fields such as ethnology, is the study of changes in the human condition brought about by environment and by cultural factors and limited by our biology. Societies such as our own that are undergoing rapid change are subject to increasing pressures to accommodate new factors. These societies must look to studies of the long history of man as well as to studies of today's condition to find answers to such questions as:

- a) How have societies responded to similar pressures in the past?
- b) What are those elements in our condition that are biological imperatives or are so culturally interdependent that we dare not change them? For example, is the family unit essential to the survival of our civilization?
- c) What are the current options available to today's societies?

The urgency to understand the forces demanding change in human societies has caused scholars to study man and communities, past and present, for a better grasp of the process of social change. Modern archeology and anthropology seek to understand such change.

Projects of United States institutions contributing to understanding the human condition, which received support in FY 1978, are listed below.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
EGYPT			
1. FC70549800 - Amend. 4			
FC80425800 and Amend. 1 & 2	American Research Center in Egypt, Princeton, NJ	P. Walker	\$795,546 <u>1/</u>

The American Research Center in Egypt (ARCE) is a consortium of 22 United States universities and museums and over 600 individual scholars devoted to research and teaching about ancient and modern Egypt. The ARCE is a unique

1/ Total for following parenthetical amounts (items 1a through 1p.)



national resource because it is the principal source of money on an annual basis in the United States for the advancement of knowledge and understanding of ancient and Islamic Egypt as well as the training in Egypt of area specialists. Moreover, the ARCE has served the U.S. national interest by sustaining active scholarly collaboration between the U.S. and Egypt during the periods of political stress when other contacts have been interrupted. SFCP support of the ARCE has totalled \$3,968,705 equivalent in Egyptian pounds over a thirteen year period for the support of 43 research projects. Projects receiving new funds in FY 1978 are listed below.

	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
a.	U. of Chicago	L. Bell	(\$89,376)

A 50-year project has carefully preserved through color reproductions the rich history of ancient Egypt carved and painted on the surfaces of its temples and monuments. The work is being carried out at Luxor before the monuments there are completely eroded and undecipherable.

b.	Brooklyn Museum New York, NY	B. Bothmer	(\$50,787)
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The preparation of this catalog documents 150 previously unpublished ancient Egyptian statues found at Karnak. These statues were found early in this century by George Legrain.

c.	U. of Maryland	C. Butterworth	(\$12,959)
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Averroes or Ibn-Rushd, as he was called in the Arab world, was one of the most important students of Aristotle. His commentaries on Aristotle's work are unequalled. The goal of this project is to edit and publish Arabic manuscripts of Averroes' Middle Commentaries on Aristotle's Organon.

d.	American Research Center in Egypt	P. Walker	(229,680)
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Smithsonian grants to ARCE have supported the Cairo Center which serves as an American scholarly presence in Egypt by maintaining a reference library and by sponsoring lectures and symposia which involve the scholarly community in Egypt. The Cairo Center also provides administrative support for its members' research by obtaining research and import and export permits, housing, supplies and personnel, and by keeping project financial records and publishing research results.



	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
e.	U. of Minnesota	T. Jones	( \$16,785 )

Epigraphic recording, photographing and copying of the remains of the Temple of Amun at Karnak.

f.	American U. in Cairo	G. Scanlon	(\$40,805)
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Conclusion of excavation at Old Cairo site, possibly the residence of one of the of famous, historically crucial functionaries known to scholars.

g.	American Research Center in Egypt	P. Walker	(\$157,425)
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Support was given to the ARCE Fellowship Program for research in ancient and modern Islamic thought, history, and art. ARCE fellows receiving support during FY 1978 are listed below.

Higher Institute for Arabic Music	J. Andrus
Hunter College	D. Bates
Hunter College	U. Bates
SUNY, Binghamton	J. Bell
Brigham Young U.	K. Brown
U. of Michigan	H. Fakhouri
U. of Chicago	P. Gaffney
Appalachian State U.	A. Haggagi
New York U.	C. Kortepeter
Catholic U.	L. MacCoul
Wayne State U.	T. Miesse
Queens College	A. Rassam
Wayne State U.	A. Rouchdy

h.	American Research Center in Egypt	D. King	(\$47,255)
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The Smithsonian and the Egyptian National Library are preparing a critical catalogue of the Library's medieval scientific manuscripts and analyzing scientific works of particular importance in astronomy and mathematics. Several of these documents suggest that some of the geometrical mechanisms employed by Copernicus were developed 250 years earlier in the Islamic world.



	<u>Institution</u>	<u>Principal Investigator</u>	<u>S Eqv.</u>
i.	Harvard U.	D. Gutas	(\$8,567)

Preparation of a descriptive catalog of Arabic philosophical manuscripts in the Egyptian National Library, the study of which is essential in the documentation of the continuity of Western thought.

j.	American Museum of Natural History, NY	W. Fairservis	(\$8,014)
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Excavation continues at Hierakonpolis, a major urban complex continually occupied from 4500 to 1500 B.C. The most sophisticated scientific techniques are being employed in the examination of this little studied period of Egyptian history.

k.	New York U.	D. Hansen E. Ochsenchlager	(\$40,484)
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This excavation of the stratified ancient port of Mendes in the Nile River delta involves Greek and Roman settlements dating from 300 B.C. to the early Christian era. This site is providing greater insights into the life of an ancient Mediterranean port town.

l.	Brooklyn Museum New York, NY	B. Bothmer	(\$47,590)
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American museum professionals are preparing a catalog on the art objects in the new Luxor Museum of Ancient Egyptian Art as well as designing and writing labile information. All data will be provided in English, French and Arabic.

m.	U. of California, Los Angeles	S. Vryonis	(\$15,356)
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English translations of recent literary works evolved in Egypt under the impact of modern Western thought are being made available to the English reading public for the first time. One volume on the short story and another on drama have been published; a third, on the literature of ideas, is being translated. These complete texts of current Arab literature will provide a unique opportunity for insight into this important culture.

n.	U. of California, Berkeley	K. Weeks	(\$12,813)
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The preparation of a detailed map of archeological remains in the Theban necropolis on the West Bank at Luxor will provide a very valuable research tool for Egyptologists.



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
o.	U. of Utah	P. Hammond	(\$11,514)
Electronic survey of Tell el-Shuqafiyah using proton-magnetometer/soil resistivity instrumentation to understand and evaluate history of the site.			
p.	U. of Minnesota U. of Missouri	W. Coulson A. Leonard	(\$6,136)
Archeological feasibility study of the city of Naukratis, which 5th century B.C. Greek historian Herodotus claims was the only place where the Greeks were allowed to dwell when they were in Egypt for business.			
2. FC80384200	American Research Center in Egypt	P. Walker	\$1,000,000
A contribution was made through the ARCE to the international campaign to help save the monuments at Philae which include early Christian temples as well as Egyptian and Roman treasures that have been inundated by waters impounded between the two dams at Aswan. These temples are being dismantled for transfer to a nearby island which is above the water level. This is the final phase of the campaign which has already rescued Abu Simbel and certain Nubian monuments.			
3. FC80250500	American Research Center in Egypt	P. Walker	\$86,375
a.	U. of Kentucky	W. Adams	(\$31,135)
For 3,500 years the fortress site of Qasr Ibrim was a major administrative and religious center and is the last major archeological site threatened with inundation by Lake Nasser which was formed by the construction of the Aswan Dam. Investigation concentrates on an unexcavated temple which was converted in the sixth century A.D. to a Christian church and on the houses and other remains of the mysterious Ballana Kingdom (fourth century A.D.) of which there is very little information.			
b.	U. of Chicago	J. Johnson	(\$55,240)
Study of the Red Sea port town of Quseir and its relationship with overland and maritime trade throughout history.			
4. FC80716400	U. of Maryland	K. Stowasser	\$20,357
Edition and annotated translation of al-Maqrizi's "The Book of Exhortations and Useful Lessons in Dealing with Lands and Historical Landmarks," a primary scholarly source of the history and topography of medieval, pre-Ottoman Egypt.			



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
5. FC80185500	Southern Methodist U.	F. Wendorf	\$74,176

Geological and archeological studies of the Egyptian desert are establishing a chronology of environmental changes and the appearance and development of early man. This study of the geological past has resulted in discovery of a great quantity of water available at shallow depth, which seems to be a useful source of water for modern agriculture.

6. FC80662700	Washington State U.	F. Hassan	\$57,456
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The origins of agriculture and human cultural adaptation to a changing environment are being explored in a study which parallels that of North Texas State University. Prehistoric groups engaged in hunting and dry farming are known to have inhabited the Siwa Oasis region in pre-historic Egypt.

7. FC80521800 RF-IFT00164	American Schools of Oriental Research, Cambridge, MA	J. Holladay	\$86,462
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Archeological investigations of the historical, cultural, economic and ancient topographic problems of the Wadi Tumilat in the eastern delta of the Nile.

8. FR-6 50010 Amend. 2	North Texas State U.	T. Hays	\$1,754
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This project seeks evidence of a change in livelihood from food collection to food production by the excavation and analysis of a predynastic site in Upper Egypt, which is providing the earliest evidence of a neolithic economy in Egypt. The beginnings of Egyptian civilization are believed to tie in with this economic change which would be accompanied by adjustments in cultural and political activities.

9. RF-IFT00296	California State U.	M. Dols	\$6,078
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Edition and translation of Ali ibn-Ridwan's On the Prevention of Bodily Ills in Egypt, dealing with epidemic diseases and historical background of health conditions in eleventh century Egypt.

10. RF-IFT00128, RF-IFT00129	U. of Nebraska	W. McHugh	\$3,830
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Feasibility study on a multi-disciplinary research program on the late pre-historic cultural ecology of middle Egyptian Nile borderlands.



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
INDIA			
11. FC70634700, Amend. 2, FC80559800	American Institute of Indian Studies, Chicago, IL	E. Dimock, Jr.	\$591,376

The American Institute of Indian Studies (AIIS) was founded in 1961 and today has a membership of 29 United States institutions. The AIIS is a unique national resource because it is the principal source of money on an annual basis supporting in the United States the advancement of knowledge and understanding of India as well as the training in India of area specialists. Moreover, the AIIS has served the U.S. national interest by sustaining active scholarly collaboration between the U.S. and India during periods of political stress when other contacts have been interrupted. Disciplines sponsored by the AIIS are increasing from the original concentration on social sciences and the humanities to include the natural sciences as well. Smithsonian support of the AIIS has totalled more than 4,000,000 equivalent in Indian rupees over a thirteen-year period.

a.	American Institute of Indian Studies	E. Dimock, Jr.	(\$79,691)
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The AIIS provides support for its fellows and for a major language program from a headquarters in New Delhi and small offices in Bombay, Calcutta, Madras, and Poona.

b.	American Institute of Indian Studies	E. Dimock, Jr.	(\$511,685)
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The principal activity of the AIIS has been the appointment of fellows. The SFCP currently provides most of the funds for this fellowship program. AIIS fellows receiving support during FY 1978 are listed below.

American U.	Richard Williams
U. of Arizona	Linda Wentink
Brown U.	Timothy Richards
California State Polytechnic U.	Robert Simon
U. of California, Berkeley	Pradmanabha Jaini
U. of California Berkeley	Karine Schomer
U. of California Berkeley	Mark Juergensmeyer



<u>Institution</u>	<u>Principal Investigator</u>
U. of California, Los Angeles	Cynthia Dubin
U. of California, Los Angeles	Kristin Rao
U. of California, Los Angeles	Hemalata Dandekar
U. of Chicago	William Arraj
U. of Chicago	Daniel Gold
U. of Chicago	Mimi Klaiman
U. of Chicago	John Millis
U. of Chicago	Linda Moore
U. of Chicago	Martin Haigh
U. of Chicago	David Fedson
Columbia U.	Doranne Jacobson
Cornell U.	Helen Kelley
Duke U.	Mohammed Siddiqi
U. of Hawaii	Lee Siegel
U. of Houston	Pauline Kolenda
U. of Illinois	Romy Borooah
U. of Iowa	Paul Greenough
Independent	Judith Kroll
U. of Michigan	Rodney Moag
U. of Michigan	Peter Hook
U. of Minnesota	Gregory Kozlowski
U. of Minnesota	Indira Junghare
U. of Minnesota	Henry Scholberg
U. of Missouri	Murair Nagar
U. of Missouri	Arthur Robbins
New York U.	Carol Radcliffe



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
	New York U.	Joseph Dye	
	Ohio State U.	Deepak Shimkhada	
	U. Of Pennsylvania	Stuart Elkman	
	U. of Pennsylvania	Surendra Gambhir	
	U. of Pennsylvania	Douglas Haynes	
	U. of Pennsylvania	Franklin Southworth	
	Reed College	Douglas Leedy	
	Rutgers U.	George Blyn	
	Temple U.	A. K. Sarma	
	U. of Texas	Richard Williams	
	U. of Virginia	Ravindra Khare	
	U. of Washington	Harold Schiffman	
	U. of Wisconsin	Edith Brandstadter	
	U. of Wisconsin	John Deyell	
	U. of Wisconsin	Edward Hill	
	U. of Wisconsin	Frances Khan	
	U. of Wisconsin	Joan Raducha	
	U. of Wisconsin	Henriette Sender	
	U. of Wisconsin	Velcheru Rao	
	U. of Wisconsin	Morris Weisz	
12. FC80948900	American Institute of Indian Studies	G. Possehl	\$20,000
Publication of a comprehensive body of literature on the 4500 year old cities of the Indus civilization.			
13. FC80450000 RF-IFT0048	American Institute of Indian Studies	F. Asher	\$219,550
The Center for Art and Archeology at Benares, India, is a vital research			



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
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facility serving scholars of ancient and modern India from all over the world. The Center was established to apply rigorous scholarly standards to the massive job of photographing and indexing the art collections and the temples and monuments of India which abound in every region of the sub-continent. The archive of more than 30,000 photographs continues to grow as important projects like photographing collections in the India Museum in Calcutta are undertaken.

14. FC80363800	American Institute of Indian Studies	J. Gutman	\$25,712
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Examination of 19th and early 20th century photographs in India will enable scholars to reconstruct the social history of the period (research development).

15. FC80689900	American Institute of Indian Studies	N. Zide	\$26,658
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Studies of the Munda languages will contribute to an understanding of cultural contexts in which language changes happen, and the pre-history of eastern and central Indian languages.

16. FC70669700 Amend. 2, FC80744300 and Amend. 1	Asia Society, NY, agent for the American Panel of the Indo-U.S. Sub- Commission on Education and Culture	D. Dillon	\$114,222
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The Indo-American Fellowship Program, established in late 1975, was created to widen the circle of scholarly/professional contacts and increase the extent of collaboration between the U.S. and India. Fellowships are granted for research in India, primarily at the postdoctoral or equivalent level with substantial collaboration with Indian colleagues. The fellows who received support in FY 1978 are:

Brooklyn College	L. Gordon
Columbia U.	E. Barnouw
Columbia U.	C. Worswick
Harvard U.	D. Eck
Independent	L. Cort
Massachusetts Institute of Technology	L. Anderson
New York U.	R. Schechner
San Diego State U.	E. Henry



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
	U. of California, Berkeley	M. Juergensmeyer	
	U. of California, Los Angeles	M. Helstein	
	U. of Chicago	N. Zide	
	U. of Minnesota	H. Scholberg	
17. FC80948800	U. of Texas	William Schull	\$30,000

A symposium on population structure and human variation in the Indo-Pacific geographical areas, presenting the current knowledge in the field and providing a forum for exchanging views and developing future collaborative studies.

18. FC80949200	U. of Illinois	D. Shimkin	\$31,000
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Travel for twenty scholars to "Anthropology for the Future" session, held in conjunction with the Xth International Congress of Anthropological and Ethnological Sciences.

19. FC80949000	U. of Pennsylvania	S. Katz	\$45,000
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Within the context of the Xth International Congress of Anthropological and Ethnological Sciences, symposia on anthropology and food, emphasizing nutritional and cultural perspectives relating to problems with food production and consumption worldwide. Publications addressing the role of anthropology with respect to food will emanate from the sessions.

20. FC80948600	Dartmouth College	D. Neuman	\$17,791
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Support for 11 American participants at the Xth International Congress of Anthropological and Ethnological Sciences, who will present papers on anthropological approaches to music (ethnomusicology). These sessions will serve to introduce the discipline to many foreign anthropologists.

21. FC80948100	U. of Pennsylvania	B. Spooner	\$23,000
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A conference on the global ecological problem of desertification, focusing on discussion of social and cultural problems related thereto. Convened in connection with the Xth International Congress of Anthropological and Ethnological Sciences.

22. FC30948000	U. of Illinois	C. Cunningham	\$24,000
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Support for international group of participants in meetings on medical



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
anthropology, part of the Xth International Congress of Anthropological and Ethnological Sciences in India. Focus of the meetings is sociocultural and policy aspects of comparative health care problems.			
23. FC80947800	Herbert H. Lehman College	J. Mencher	\$18,370
Symposium on social anthropology of peasantry, considering general theoretical issues and specific historical cases.			
24. FC80948700	U. of California, Los Angeles	W. Goldschmidt	\$26,000
In association with the Xth International Congress of Anthropological and Ethnological Sciences, travel support for fourteen international participants in sessions on change and development in nomadic societies.			
25. FC80948500	Rutgers U.	H. Safa	\$26,000
Symposium to explore the urbanization of developing countries, with emphasis on the consequential informal economies which develop from capitalist penetration. A module will be prepared from the insights gained concerning the problems of poverty and urbanization in those countries.			
26. FC80948200	U. of Chicago	N. Zide	\$24,000
Travel assistance for participants to attend second international conference on Austroasiatic languages as part of the Xth International Congress of Anthropological and Ethnological Sciences.			
27. RD-IFT00222, and Amend. 1&2	Smithsonian Institution	R. Sorenson	\$6,364
Ethnographic film study of a nomadic herding society, Pashtoon people of Afghanistan, some of whom have settled in India.			
28. RD-IFT00130 and Amend. 1	Dumbarton Oaks Center for Byzantine Studies Washington, D.C.	M. Alexander	\$1,790
A descriptive and photographic inventory of the tile and stone mosaics from the Roman colonial period in Tunisia, resulting in the publication of scholarly reference material is making available a wealth of data on the social, religious and other cultural and artistic aspects of life in Roman times in Tunisia.			
29. RD-IFT0029	American Schools of Oriental Research, Cambridge, MA	J. Humphrey	\$2,970
Travel to assess feasibility of publishing in India Carthage excavation			



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
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research results.

30. RD-IFT00213	Cornell U.	R. MacDougall	\$8,320
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The examination of Indian traditional architecture in an organic framework will provide new insights in the development of this ancient science.

31 . FC80947700 RF-IFT00105 and Amend. 1	American Anthropological Association, Wash., D. C.	E. Lehman	\$62,480
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Travel assistance for American anthropologists participating in the Xth International Congress of Anthropological and Ethnological Sciences, the first such conference held in a Third World country.

#### PAKISTAN

32. FC80385800, RD-IFT00137	U. of California, Berkeley	G. Dales	\$73,917
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Studies of smelting sites preserved from ancient times to locate the sources of copper ore and examine the techniques of early mining and smelting.

33. RF-IFT00235 Amend. 1	Smithsonian Institution	W. Trousdale	\$165
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Examination of the techniques of early mining and smelting in Pakistan is expected to determine the relationship of smelting sites in Afghanistan with early metallurgy in the Indus Valley and Baluchistan.

34. FR6-50005	American Museum of Natural History, NY	W. Fairservis	\$300
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This excavation of an Harappan Village site near Karachi seeks a clear picture of the way of life of the villagers and influences for change which affected the Harappan civilization. Scholars feel that this culture lies at the foundation of South Asian civilization.



SYSTEMATIC AND ENVIRONMENTAL BIOLOGY

For much of our history as a nation, we have regarded technology as the key to the betterment of the human condition. It is a concept that once stood virtually unquestioned, and which has profoundly influenced changing cultural patterns around the world. Today, however, it is becoming increasingly obvious that technology exacts its price, one that is multiplied by new levels of population. Biological scientists who once concerned themselves with laying the brick-work of the edifice of human knowledge now find themselves with a new responsibility. We now know that it is imperative to establish norms for our environmental systems, to monitor changes, and to predict the consequences of social policies that may have an injurious environmental impact. American scientists are again the leaders in international research efforts in these new fields. Through the long-term collaborative relationships between American and foreign institutions and scholars, research conducted under the Smithsonian Foreign Currency Program serves as a foundation for the intense efforts that will be required to solve the problems of biological science that transcend national boundaries.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
BURMA			
35. RF-1FT00274	Smithsonian Institution	T. Soderstrom	\$76
Development of collaborative research programs on bamboos.			
EGYPT			
36. SF3-00104	Smithsonian Institution	K. Krombein	\$10,720
Publication of two manuscripts by A. Alfieri, the "father" of Egyptian entomology, providing information beneficial to world scholars.			
37. FC80948300, FR6-50008, Amend.1	U. of Michigan	J. Burch	\$49,019
Research into the freshwater snails of Africa, <u>Genus Bulinus</u> , is providing the basic systematic, geographic, and ecological data for the eventual control of these carriers of schistosomiasis, a serious public health problem.			
38. FC80947900	Duke U.	E. Simons	\$28,600

The Fayum Province of Egypt is the only accessible site in Africa for recovery of land vertebrates dating to the Oligocene epoch some 35,000,000 years ago. Quarrying of this site promises to expand our knowledge of the early primate ancestors of man and related primates and to improve our understanding of their ecological setting.



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
INDIA			
39. FC70117000	Smithsonian Institution	R. Higgins	\$16,408
Study of the interdependence of living organisms in some tropical freshwater Indian lakes is developing principles of management of biological productivity in these lakes and comparing results with similar studies of temperate lakes in North America, contributing to understanding the processes of life in all bodies of freshwater.			
40. RD-1FT00082 and Amend. 1	U. of Massachusetts	K. Bawa	\$4,800
Collaborative studies on the reproductive biology of tropical lowland forest will increase considerably understanding of the genetics and breeding of forest trees.			
41. RD-1FT00046 and Amend. 1	Smithsonian Institution	K. Krombein	\$3,566
An examination of entomological specimens of the Zoological Survey of India is providing comparative material for related studies in Sri Lanka.			
42. RD-1FT00196	Howard U.	S. Hussain	\$998
Development of collaborative research program on vertebrate fossils at the Geological Survey of India.			
43. RD-1FT00276	U. of Texas	R. Webb	\$3,233
Systematic study of softshell turtles of India.			
44. RF-1FT00022 and Amend. 1	California Academy of Science	W. Eschmeyer	\$4,900
Field studies in the systematics of scorpionfishes in preparation for a worldwide monograph of this family of ecologically and economically important fishes.			
45. RF-1FT00016 Amend 2, -52, -106, -274	Smithsonian Institution	F. Fosberg	\$7,444
Scientists from all over the world are contributing to the revision of <u>Trimen's Handbook to the Flora of Ceylon</u> , the handbook which has provided the basic nomenclature for tropical flora.			



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
46. RF-1FT00271	Bernice P. Bishop Museum, Honolulu, HI	D. Devaney	\$4,045

Comparative study of important collections of ophuiroids brittlestars, at the Zoological Survey of India.

47. RD-1FT00043, -44, -234 and Amend. 1 & 2, -235, -260, -261, -262	U. of Miami Northwestern U.	H. Teas T. Waite	\$24,333
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Determination of the kinetics of nitrogen cycling in a mangrove estuary in Western India, is the first step in developing management criteria for mangrove systems, important buffers against shoreline erosion.

#### PAKISTAN

48. FC80254100 and Amend.1	Yale U.	D. Pilbeam	\$61,500
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In a search for fossils of small and large animals in Pakistan, particularly primates dating from the time of man's earliest development, a collaborative effort between Yale University and the Geological Survey of Pakistan is striving toward a better understanding of the evolution of man.

49. FC80241100	Howard U.	S. Hussain	\$37,600
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Field studies of recently discovered vertebrate fauna from the Miocene lower Siwaliks of Pakistan, including six families of rodents and two of insectivores, some of which are new to South Asian fossil deposits.

50. FC80948400	U. of Michigan	P. Gingerich	\$30,988
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A search for Paleocene and Eocene (55-65 million year old) fossil mammals in Pakistan will substantially contribute to our knowledge of the evolution of mammals and their geographic distribution.

51. RF-1FT00194	Smithsonian Institution	R. Grant	\$1,500
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The nature and timing of the mass extinction of marine faunas of the late Paleozoic and early Mesozoic era of Pakistan are being investigated by a team of scholars from Pakistan and the United States.



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
52. RF-1FT00016 and Amend. 1, -140 and Amend. 1, -194, -198, -199, -200, -236	Smithsonian Institution	F. R. Fosberg	\$15,469

To study specimens in European herbaria and in Pakistan, to visit the Moenjodaro ruins in Pakistan to decide if it is possible to make recommendations to UNESCO on appropriate plants to use in restoration, to confer with management of Amerind Ltd. on modus operandi of printing Ceylon Flora manuscripts, to confer with Ceylonese colleagues on Ceylon Flora Project affairs, and to do some field work in Ceylon on scholar's families in the Ceylon Flora.



ASTROPHYSICS AND EARTH SCIENCES

The study of astrophysics and earth sciences is the study of man's available energy and mineral resources. Studies of the stars and their origins reveal much about the origin, composition, behavior and fate of the Earth. The forces governing the stars are the same as those governing the star which is our Sun. The Earth was born of solar minerals, and the Sun remains the source of all energy, fossil or otherwise, available to man today. Uranium, for example, which provides the fuel for atomic power plants, is present in the Sun as well as in the Earth. Coal and oil are fossil remains of plants and animals which once relied on sunshine for life, just as all life does today.

Studies, like those listed below, which received Smithsonian Foreign Currency Program support in FY 1978 are contributing to knowledge essential to meet man's future energy and mineral needs, to understand and predict such natural phenomena as earthquakes, and to foster space age developments. Such projects help host nations, particularly the developing nations, improve their scientific output while providing United States institutions with collaborators, facilities or field research opportunities essential to the conduct of such studies, judged most likely to advance man's knowledge of his available energy and mineral resources.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
EGYPT			
53. FC80140100 and Amend. 1	U. of Arizona	C. Haynes	\$14,936
Geological investigation of quaternary deposits of the Nubian Desert to understand the factors controlling prehistoric occupation of the area and to predict future man-climatic factors on land use and conservation.			
54. FC80215700	Smithsonian Institution	F. El-Baz	\$44,955

Data from surface surveys in the Western Desert of Egypt is being compared with information from satellite photographs to provide a description of desert erosion and sand movement for use in efforts to reverse nature's "desertization" process.



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>S Eqv.</u>
55. FC70225900	Smithsonian Astrophysical Observatory, Cambridge, MA	M. Pearlman	\$11,514

The operation of an Egyptian Satellite tracking facility at Helwan Observatory adds another link in the Smithsonian Astrophysical Observatory's global tracking network which supports studies of the earth's motion and magnetism and of the upper atmosphere.

56. FC80642700 RD-1FT00226	Smithsonian Institution	D. Stanley	\$15,897
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The Nile River has historically deposited large volumes of rich sediment on its bank and in the Mediterranean. The construction of the Aswan Dam has almost eliminated these deposits. A cooperative oceanographic study will seek to ascertain the effect of this man made environmental change on the Mediterranean Sea floor at the mouth of the Nile (research development).

#### INDIA

57. RD-1FT00297	U. of Colorado	M. Wyss	\$4,151
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Studies of the great shallow earthquake areas of India will provide information contributing to future earthquake prediction.

58. RD-1FT00136	Princeton U.	R. Phinney	\$1,952
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The inclusion of seismic technics to the geological interpretation of the PreCambrian crust, basement rock of India, will resolve longstanding geological questions.

59. RD-1FT00001,-148, Smithsonian Institution -236 Amend.1, -237 Amend.1	K. Fredriksson	\$10,755
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Gravimetric survey of the Lonar Crater in India.

60. RF-1FT00083, -88 Amend. 1, -89, -90 Amend. 1, -91, -97, -98, -99	International Solar Energy Society, Santa Cruz, CA	F. de Winter	\$15,298
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Travel of U.S. participants in the International Solar Energy Society Congress held in India, January 1978.



# MUSEUM PROGRAMS

The scope of museum activities is growing and changing. The traditional museum role has been the care and preservation of scientific specimens and cultural objects for study and reevaluation as new techniques and data become available. Today museums also have a growing role in the transmission of man's cultural heritage to future generations, a role belonging traditionally to universities. They also play a growing role in communication between present-day cultures, drawing together peoples of different lands when language barriers prevent exchange of basic information. Museums are now making more use of their skilled personnel and their collections for popular education. Increasingly, museums are broadening the interpretation of museum collections to include living cultural traditions such as crafts and the performing arts.

Projects like those listed below, which received Smithsonian Foreign Currency Program support in FY 1978, support both the traditional and the newer roles of museums. These projects respond to those needs of the museum profession not met within the natural sciences and cultural history areas of the Smithsonian Foreign Currency Program.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
EGYPT			
61. RD-IFT00134	Brooklyn Museum New York, NY	J. Hotton	\$888

Support for feasibility investigation of a conference/project on ancient African history, from which would result a media presentation on the subject.

62. RD-IFT00092 & Amend.1, RD-IFT00232	Puppeteers of America, New Orleans, LA	N. Staub	\$9,074
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An initial survey of cross-cultural folk traditions using folk puppets to promote international understanding among diverse cultures of Africa and Asia.

## GUINEA

63. RD-IFT00092 & Amend.1, RD-IFT00233 & Amend.1	Puppeteers of America	N. Staub	\$2,813
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An initial survey of cross-cultural folk traditions using folk puppets to promote international understanding among diverse cultures of Africa and Asia.



<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
INDIA			
64. FC70763500, Amend. 2	The Franklin Institute	J. Harrington	\$25,098

The development, preparation and presentation in six Indian cities of an exhibition illustrating the historical development of American technology is one of the first projects in the museum program of the Indo-U.S. Subcommittee on Education and Culture, created in 1974 to further cultural relations between the two countries.

65. RD-IFT00093	Puppeteers of America, New Orleans LA	N. Staub	\$1,308
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An initial survey of cross-cultural folk traditions using folk puppets to promote international understanding among diverse cultures of Africa and Asia.

66. RF-IFT00081	Carnegie Museum of Natural History	J. Swauger	\$2,500
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Continuing exchange of museum professional between National Museum of Natural History of India and the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania.

67. RD-IFT00081, -93, Asia Society, NY, -114, -115, agent for the American -117, -118, -119, Panel of the Indo-U.S. -120, -121, -122, SubCommission on Edu- -256, -257 cation and Culture	F. Long	\$25,839
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Development of museum professional programs under the Indo-U.S. Subcommittee on Education and Culture.

#### PAKISTAN

68. RD-IFT00093	Puppeteers of America	N. Staub	\$1,268
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An initial survey of cross-cultural folk traditions using folk puppets to promote international understanding among diverse cultures of Africa and Asia.



## SFCP GRANTS ADMINISTRATION

	<u>Obligation Number</u>	<u>Institution</u>	<u>\$ Eqv.</u>
69.	3300-81-01 (Rev.) 807088000	Smithsonian Institution	\$58,472

Indian rupees were transferred to the State Department for Foreign Affairs Administrative Support which are the costs incurred by the State Department in providing administrative support to Foreign Currency Program grantees in the excess currency countries

70.	RF-IFT00104, -184, -217	Smithsonian Institution	\$6,297
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Participation in U.S. Egyptian Working Group on Education and Culture.

TRANSFER TO NATIONAL SCIENCE  
FOUNDATION (NSF)

71.	NSF, Science Information Program		\$202,000
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These funds were transferred to NSF for translations of publications of priority interest to scholars conducting research in the natural sciences and cultural history.

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